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Light Ion Polarimetry for the EIC ANA SOFIA NUNES, Brookhaven National Laboratory — The Electron-Ion Collider (EIC) will be the first high energy collider using both polarized electrons and polarized protons and light ions, and these two types of beams require the measurement of their polarization. The polarimetry of proton beams was significantly improved at RHIC in the past two decades, but the EIC presents more challenging conditions, namely more demanding beam conditions, and the measurement of the polarization of light ion beams will be done for the first time. There is no theory that can predict the transverse spin asymmetries in the elastic scattering of nuclei from fixed target polarimeters by polarized light ions from the beams. Moreover, the background to the events of elastic scattering, albeit small at RHIC, may become important in EIC conditions because of the shorter bunch spacing and of nuclear breakup fragments. For these reasons, the study of those backgrounds, both in Monte Carlo simulations and, in the next few years, profiting from RHIC data-taking campaigns, has become important. Results from the simulations and details on possible tests will be presented.

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